

## REMARKS

Claim 1 is edited without narrowing or, therefore, Festo-like limitations.

For the rejection of the claims under 35 USC 103 for obviousness from the cited Morita and Oberstein, et al. patent publications, it is necessary to distinguish the form of a signal itself (analog or digital) from the method of its transmission, which also can be analog or digital. As a result, all in all, we have four variants: an analog signal may be transmitted in the analog or digital mode, just as a digital signal may be transmitted in an analog or digital mode. In the claims, the transmitting of the signals is in an analog mode.

In patent EP, 0122432 (Morita), as well as in patent US, 4 543 565 (Oberstein et al) and in materials of the application of [www.systemsensor.it](http://www.systemsensor.it), it is proposed to transmit an analog signals are transmitted in a digital mode. Therefore, no combination of these references can make the claimed invention obvious.

In patent Oberstein et al., yet another problem is solved - the problem of logical processing in the receiving-monitoring instrument of an analog signal previously received from the alarm unit. At this, the two above-mentioned problems are not even considered; in other words, it does not matter for the authors, how the signal was transmitted, though it is implicitly assumed to be the digital method: otherwise, the problem in question just cannot be solved.

The Applicant agrees with the Examiner Morita discloses the method of generating and transmitting signals from the fire alarm unit to the receiving-monitoring instrument with an aid of a transmitting device (a signal transmission circuit 6) forming part of the alarm unit. The applicant has no doubt that the Morita method (Morita) comprises self-testing of the operability of the alarm unit components and determining the value of the monitored fire

factor, while the signals indicating the operability of the alarm unit as judged from the results of its self-testing and indicating that permissible value of the monitored fire factor has been exceeded are transmitted. However, as opposed to the claimed invention, transmission of signals in Morita is exercised via a unipolar (I1 and I2) communication line, and not via a bipolar (variable polarity) communication line, as was noted by the Examiner. The bipolar (variable polarity) communication line is characterized by periodically recurring variation of voltage polarity in the communication line.

Further on, as was correctly noted by the Examiner, Morita "does not expressly disclose the transmission being in an analog mode". The simple reason for this is that, in Morita, contrary to claims, the signal transmission is performed in the pulse form (see Fig.3, 4 - I1 and I2), while "the signal is only analog before being transmitted". An analog signal is really mentioned in solving the problem of measuring smoke parameters, which apparently misled the Examiner in respect of the nature of the signal, however an analog signal is only present in the alarm unit sensor, while further on it is digitized, with the signal transmission to the receiving-monitoring instrument being performed in a digital code, and not analog mode, as claimed.

As for the general problem of transmitting an analog signal from the alarm unit to the receiving-monitoring instrument, it is solved in all the patents related to the art - both in the claimed invention, and in Morita, as well as many others. What is essential here is how exactly the transmission of signals is exercised. Thus, in Morita, a method of transmitting an analog signal in the digital mode is used, whereas the essence of the claimed invention is in a method of transmitting a signal in the analog mode.

The Applicant draws attention to the fact that the term "analog" means "being of or pertaining to a mechanism that represents data measurement of a continuous physical variable" (see "Webster's Encyclopedic Unabridged Dictionary of the English Language", The Random House Value Publishing, Inc., 1994, p. 74). The term "impulse" means "a single, usually sudden, flow of current in one direction" (ibid, p. 963). Fig.3,4 present a series of pulses, therefore, Morita expressly discloses the transmission being in an impulse mode. Moreover, Morita notes that "...a signal transmission circuit 6, which ...and sends out the pulse signal with frequency f1 or f2." (Col 2, lines 39-42).

The Applicant notes that, as opposed to the known method of Morita, the claimed method of generating and transmitting signals is not about signals inside the alarm unit, but a signal being transmitted via a communication line from the alarm unit to the receiving-monitoring instrument. Inside the alarm unit of Morita, an analog signal of its sensor is converted into the digital (pulse) form, and it is in this pulse form that the signal is transmitted via a communication line to the receiving-monitoring instrument. It is significant that this transmission of the pulse signal only takes place after receiving a digital (pulse) query from the receiving-monitoring instrument, with the address of the alarm unit to be specified. Here, the receiving-monitoring instrument must be addressable, and the data communication must be performed in compliance with a special protocol, which makes the alarm unit incompatible with other receiving-monitoring instruments.

The known fire alarm unit of Morita is identical to the Applicant's prototype ([www.systemsensor.ru](http://www.systemsensor.ru)): "the method of generating and transmitting signals from the fire alarm unit to the receiving-monitoring instrument via a communication line with the aid of a transmitting device which is a part of the alarm unit, includes the self-testing of the

operability of the alarm unit components and measuring the value of a monitored fire factor. The formation and transmission of the value of the monitored fire factor and of the failure information via the communication line are performed in a digital code with the aid of a receiving-transmitting device".

As was noted in the original scope of the application, "the disadvantages of the known method of forming a signal in a fire alarm unit (see, [www.systemsensor.ru](http://www.systemsensor.ru) and EP, 0122432 (Morita)) are high prime cost of the process due to the use of an expensive receiving-monitoring instrument, which contain devices for digital exchange of information, as well as low reliability and interference immunity of the digital link of the instrument with the alarm unit, and limitations as to the compatibility of instruments and alarm units (digital information exchange protocols being individual for each type of instrument and alarm unit)".

It is exactly these above-mentioned problems of the Applicant's prototype, as well those of other alarm units known from the prior art, that formed the basis for creation of the claimed method, which differs fundamentally in that the signal transmission via a communication line to the receiving-monitoring instrument takes place in the analog mode, not in the pulse (i.e., digital) mode.

In the claimed method, no query from the receiving-monitoring instrument is required; no special information exchange protocols are required either, as signals from the alarm unit can be received by any non-addressable (conventional analog) receiving-monitoring instrument. This makes the instrument cheaper, while retaining its functionality, whereby the claimed invention differs from the art and, by functional advantage therefrom, is unobvious.

Returning to the cited Oberstein et al. reference specifically, it discloses a method of processing analog signals previously transmitted by the alarm unit, not the method of transmitting signals from the alarm unit to the receiving-monitoring instrument. ("The individual alarm units are cyclically sampled in their quiescent states so as to continually transmit measured values to a central station which may, for example, be there evaluated as analog signals", see Col. 2, line 17 -21). At that, the technology of delivering analog signals in the analog mode from the alarm unit to the receiving-monitoring instrument is not considered, whereas it is the technology of encoding the signal of the alarm unit outside the latter by means of a transmitting device, which makes the essence of the subject matter.

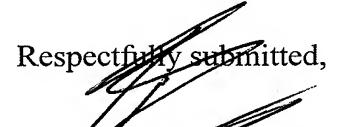
With Oberstein, et al. considered in this more detailed way, it may be concluded that the example of realization presented therein concerns analysis of signals received from only one single alarm unit (Fig.2). The authors of the patent claim a method of performing separate analysis of signals from each of the alarm units, when there are several alarm units simultaneously connected to a communication line. This is only possible, with signals transmitted via a communication line in the digital mode. Using the analog mode of signal transmission is impossible here, as the resulting analog signal would be the sum of signals simultaneously received from all the connected alarm units, with the separate analysis of its component signals being impossible; therefore, the objective of the patent would not be fulfilled. As a result, we again deal with the digital method of transmitting signals, which differs from the claimed method of transmission in the analog mode.

Therefore, Oberstein, et al. also discloses a digital, not analog, method of transmitting signals and its combination with the other references cannot change the structural and functional differences that establish the unobviousness of the claimed invention. From the

fact that, on the one hand, Morita discloses the method of generating an analog signal in the alarm unit, however, on the other hand, Morita definitely discloses that the transmission is performed with a pulse (and not analog) signal, whereas Oberstein, et al. disclose a method of analyzing signals from multiple alarm units of the system transmitted in the digital mode, it is not possible to draw a conclusion that it have been obvious to one of ordinary skill in the art at the time the invention was made to transmit two signals carrying different information via a communication line in the analog mode, as claimed.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,

  
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